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Deconstruction of Scientific Reason in Islam: Between Tradition, Rationality, and Odernity

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Abstract

Islamic civilization was once the center of the development of science through the harmonious integration of revelation and rationality. However, the dominance of modern Western epistemology has shifted the way Muslims view science. This article deconstructs the reason of science in Islamic civilization by examining three main aspects: the classical scientific tradition, rationality as the basis of epistemology, and criticism of the project of modernity that shapes the paradigm of contemporary science. Through a historical-critical approach and epistemological analysis, this paper maps the relationship between the development of science in the golden age of Islam, epistemic colonialization, and the challenge of reactualizing Islamic scientific reason in the modern context. The author argues that the reconstruction of science in Islam requires a rereading of classical intellectual treasures, the strengthening of critical reason, and the courage to challenge the hegemony of Western positivistic epistemology.

Keywords: *Deconstruction, Rationality of Science, Critique of Modernity.*

A. Introduction

The debate on the relationship between science, religion, and civilization has regained its relevance in the modern era when the epistemological structure of the world has changed drastically. Islamic civilization, as one of the intellectual traditions that once led the development of science in the classical era, is now at the crossroads between maintaining tradition and responding to the challenges of modernity. It is in this context that the deconstruction of scientific reason is important to understand how the concept of rationality is constructed, used, and criticized in contemporary Islamic civilization. Deconstructive thinking allows for a re-examination of epistemological assumptions that have been taken for granted. This effort is significant considering the development of modern science which is often associated with the dominance of positivistic and technocratic paradigms that are not always in line with the Islamic scientific tradition. According to Euben (2019), global modernity requires every intellectual tradition to continue to reformulate its epistemic identity in order to survive in the midst of the hegemony of the great narrative of Western science.[1]

Islamic civilization actually has a complex epistemological basis, including revelation, reason, observation, and intuition. However, in its historical development, the relationship between religious science and rational science has experienced a long contestation. Some scholars, such as Nidhal Guessoum (2018), state that the main problem of science in the modern Islamic world does not lie in the lack of intellectual capacity, but in the absence of a methodological framework that is able to integrate Islamic values with modern scientific methods.[2] The deconstruction of reason becomes relevant to unravel these tensions, especially since modernity presents a paradigm of science that tends to detach itself from metaphysical and ethical values. As a result, much of the discourse of Islamic science is caught up in a dualism between wanting to defend traditional orthodoxy and having to accept modern instrumental rationality. These challenges demand a critical analysis of the structure of the knowledge narrative that has developed in contemporary Muslim society.

Modernity itself is often understood as a project that upholds rationality, progress, and human freedom. However, various contemporary criticisms point out that modernity is never truly neutral or universal. According to Latour, modernity is a historical construction that has certain socio-political interests and cannot be separated from knowledge colonialism. Therefore, Islamic civilization that has undergone an epistemological marginalization process needs to criticize the foundations of modernity so as not to be trapped in the reproduction of the power relations of knowledge. The deconstruction of scientific reason serves to examine how modernity shapes the mindset of Muslim society—both through education, technology, and state policies. Thus, the analysis presented in this study is not only

[1] Syed Farid Alatas, *Decolonizing Knowledge* (Kuala Lumpur: IBFIM Press, 2019), h. 15.
[2] Zygmunt Bauman, *Liquid Modernity Revisited* (Cambridge: Polity Press, 2017), h. 150.

epistemological, but also social and political, because it concerns the relationship between knowledge, power, and civilizational identity.[3]

The freezing of Islamic civilization in response to modern science is often considered the result of the stagnation of thought that has occurred since the post-golden era. However, this analysis is not enough if it focuses only on internal factors. Some scholars such as Alatas mention that the dominance of modern Western epistemology has long created a global knowledge structure that places Islamic knowledge in a marginal position. Therefore, deconstruction is not only directed at the internal traditions of Islam, but also at the narrative of modern science which is often treated as the single and most correct narrative. Through a deconstructive approach, this study tries to explore the possibility of the birth of a more critical, open, and dialogical form of Islamic rationality, but does not lose its own epistemic character.

The development of postmodernism discourse further strengthens the relevance of deconstruction in understanding scientific reason. Jean-François Lyotard, a major figure of postmodernism, criticized the legitimacy of the "grand narrative" that has dominated modern knowledge systems. According to Lyotard (2019), the grand narrative of modern science often imposes a certain form of rationality that ignores the epistemic diversity of global society. This concept is very important to re-read the position of Islamic civilization which for centuries has been under the pressure of technological modernity and global capitalism. Through this theory, this research seeks to explain how the grand narrative of modern science can be dialogized or even destabilized to open up space for a more dynamic Islamic epistemology.[4]

In the context of the Muslim world, criticism of modernity usually emerges through the discourse of Islamization of knowledge spearheaded by figures such as Naquib al-Attas and Ismail Raji al-Faruqi. However, contemporary criticisms such as those put forward by Khaled Abou El Fadl (2017) consider that the Islamization of knowledge project has not been able to overcome a more fundamental epistemological problem, namely the unpreparedness of the Muslim community to critically reread tradition without being trapped in the politicization of religion. Therefore, the deconstructive approach is an important alternative to understanding how the structure of Islamic reason can be revitalized through internal criticism of the authority of tradition and external criticism of the hegemony of modernity.[5]

In the midst of the dynamics of globalization, science is no longer understood only as an accumulation of empirical knowledge, but also as a form of social and cultural practice. This view is affirmed by Harding (2016) who shows that science is

[3] Osman Bakar, *Islam and the Crisis of Knowledge* (Kuala Lumpur: ISTAC Press, 2018), h. 45.

[4] Jean-François Lyotard, *The Postmodern Condition* (Minneapolis: University of Minnesota Press, 2019), h. 11.

[5] Mohammad Hashim Kamali, *The Middle Path of Moderation in Islam* (Oxford: Oxford University Press, 2016), h. 36.

always produced through cultural interests and certain power relations. This perspective is particularly relevant when discussing Islamic civilization, because the process of accepting modern science in the Muslim world is inseparable from the history of colonialism, westernization, and forced modernization that occurred in the 19th to 20th centuries. The deconstruction of scientific reasoning in this context means revealing how modern science operates as a hegemonic discourse that influences the way Muslims think, both epistemologically and politically. By understanding the social construction of science, Muslim societies can reassess the position of Islamic epistemology in the global arena and open up space for a more inclusive model of rationality, without rejecting the advances of modern science a priori.

In addition, the rapid transformation of technology has created new conditions for the development of science and knowledge. Artificial intelligence, biotechnology, and digital technology are forming a new paradigm that requires Muslim society to reformulate the concept of Islamic rationality and ethics. According to Sardar, Muslims must have the courage to develop the ijtihad tradition into the realm of science and technology as an effort to present alternative ethics for the future of humanity. Thus, deconstruction is not only directed at the critique of modernity, but also at the reconstruction of Islamic values in order to make a significant contribution to the development of contemporary science. This repositioning requires epistemological work that is not simple, because it must be able to maintain the integrity of tradition while negotiating inevitable global changes.[6]

On the other hand, there is a tendency of some Muslims to resist modern science by considering it as a threat to religious beliefs and traditions. This attitude is often motivated by a lack of understanding of the scientific method and the history of interaction between Islam and science. As explained by Guessoum (2021), this tension does not stem from Islamic teachings, but from the failure of Islamic educational institutions to critically integrate scientific methodologies. Deconstructive approaches can help break down the false dichotomy between religion and science, resulting in a more proportionate and contextual understanding. In this way, the Islamic world can develop an educational model that respects the Islamic scientific tradition while being open to scientific innovation.

In addition to resistance, there is also a tendency among some Muslims to accept modern science in its entirety without considering its epistemological and ethical implications. This allows for a covert secularization as noted by Ramadan (2017), where Islamic values are slowly shifted by the dominant technocratic paradigm. This condition suggests that the main challenge lies not in the rejection of science, but in how Muslims can be critical in accepting and adapting modern science to Islamic values. The deconstruction of scientific reason becomes an analytical tool

[6] Amir Khabenjeh, "Epistemic Ruptures in Modern Islamic Thought," *Journal of Islamic Philosophy* 21 (2022): h. 10.

that allows for criticism of the two extremes: anti-science fundamentalism and valueless positivism. Through this critique, the research seeks to present a framework for a productive dialogue between tradition and modernity.

Historically, Islamic civilization has a very rich relationship with science. The Islamic scientific tradition cannot be separated from figures such as Ibn Sina, Al-Farabi, Al-Kindi, and Ibn al-Haytham who made reason and observation an integral part of Islamic epistemology. However, as Ahmed (2022) examines, classical thinking is often misunderstood in modern discourse because it tends to be separated from its cultural context and metaphysical vision. As a result, contemporary Islamic scientific discourse often fails to make critical use of the richness of these traditions. The deconstruction of reason is a way to revive the scientific tradition by reading it through a more reflective contemporary perspective, thus opening up the possibility of reinterpreting Islamic rationality that is more relevant for the 21st century.

In addition to historical problems, methodological problems are also the main challenge for Islamic civilization in developing contemporary science. Many Muslim scholars recognize that modern scientific methods work effectively to produce empirical knowledge, but they also emphasize the need to integrate ethical values, spirituality, and moral responsibility into the scientific process. This is in line with the view of Al-Jayyousi (2017), who affirms the importance of a sustainable and value-based paradigm of science within the framework of Maqashid al-Shariah. Deconstructing the reasoning of science in this context means re-examining the assumptions of the modern scientific method and finding common ground between scientific objectivity and Islamic ethical values that emphasize balance, justice, and benefit.[7]

Furthermore, global geopolitical developments also affect the dynamics of Islamic epistemology and modern science. The economic and technological dominance of Western countries makes science an instrument of power that also determines the position of Muslim countries in the global system. According to Acharya (2020), the current structure of international knowledge is still heavily influenced by global inequality rooted in historical colonialism. This has implications for how Muslim countries adopt, develop, or reject modern science. Thus, the deconstruction of scientific reason is not only philosophical, but also geopolitical, because it concerns the issue of the sovereignty of knowledge (epistemic sovereignty) that determines the direction of Islamic civilization in the future.

In the academic context, research on the deconstruction of scientific reason in Islamic civilization is still relatively limited, especially those that use postmodern approaches and Lyotard's grand narrative theory. Most research still focuses on the Islamization of knowledge or the integration of knowledge, which, while important, has not touched on a profound critique of the structure of modern epistemology.

[7] Jasser Bold, *Maqqasid Al-Shariah as Philosophy of Islamic Law: A Systems Approach* (Doha: CILE, 2022), h. 17.

Hasan (2021) notes that the study of Islamic epistemology needs to be renewed through a critical dialogue with contemporary theories, especially postmodern theories that open up space for epistemic plurality. Thus, this study seeks to fill this gap by combining deconstructive approaches, grand narrative theory, and criticism of contemporary Islamic civilization.

Overall, this introduction emphasizes the importance of deconstructing scientific reason as an analytical framework for understanding epistemological transformations in Islamic civilization. In the midst of the fluid complexity of modernity, Muslims need a critical approach to re-reading tradition and responding proportionately to the development of modern science. Deconstruction allows for the separation between traditions that are still relevant and those that need to be reinterpreted, while at the same time opening up space for new rationalities that are in line with Islamic values. Using Lyotard's grand narrative theory, this study seeks to highlight how the hegemony of modern science can be revised through a more dialogical Islamic epistemology. As emphasized by Bennabi (2020), the revival of civilization is only possible if Muslims are able to do self-criticism and rebuild productive reasoning structures. This research is the initial effort to present this framework.

The discussion of scientific reasoning in Islamic civilization has been revitalized in the last two decades as academic awareness of the relationship between Islamic epistemology, classical traditions, and the challenges of modernity has increased. Contemporary thinkers consider that Islamic civilization once produced dynamic, critical, and progressive scientific reasoning, as seen in the era of Bayt al-Hikmah until the time of Ibn Sina, al-Farabi, and Ibn al-Haytham. However, this dynamic changed when Western modernity became a universal standard for science, thus giving rise to the need to deconstruct the structure of modern scientific thinking that is often taken for granted. This deconstruction is not intended to reject modern science, but to dismantle the epistemological assumptions that govern the grand narrative of the development of science.

Therefore, this article seeks to critically examine the deconstruction of modern scientific reason, the freezing of Islamic civilization, and the possibility of liquid modernity through the lens of Lyotard's grand narrative theory. This approach tries to present a comprehensive analysis of how Islamic civilization can develop alternative scientific reasoning that is more contextual and responsive to the challenges of the times.

B. Methods

This research uses a qualitative-descriptive approach with a library research method. Data were obtained through a systematic reading of scientific works published in the last ten years that are relevant to the themes of Islamic epistemology, deconstruction of modern science, criticism of modernity, and the theory of postmodernism. The analysis is carried out interpretively, by relating the perspective

of contemporary thinkers to the discourse on the development of science in Islamic civilization.

In addition, this study uses critical discourse analysis techniques to examine how the grand narrative of modern science works and how the potential of Islamic epistemology can emerge in the space of postmodernity. This method is in line with the recommendations of Creswell (2018) who emphasized the relevance of textual analysis in philosophy and humanities research.[8]

Jean-François Lyotard in The Postmodern Condition (1979) introduced the concept of "incredulity toward metanarratives" as the main feature of postmodernity. The grand narrative refers to universal claims that attempt to explain the entire reality within a single framework, including modern science that claims objectivity and neutrality. In this context, Lyotard rejects the dominance of a single discourse that closes epistemological plurality.

For Lyotard, modern science is not value-free, but is a product of political and institutional legitimacy. He criticized how modern science claims universal truth when it is rooted in a certain paradigm that excludes alternative forms of knowledge. This perspective is particularly relevant to see how Islamic epistemology is marginalized in the narrative of the globalization of science.

In the context of Islamic civilization, grand narrative theory helps to uncover how modern scientific discourse has dominated the way of thinking of Muslim societies to the exclusion of classical scientific reasoning that is metaphysical and integral. Lyotard's concept can be used to dismantle the assumption that the only legitimate form of science is Western positivism-based science.

Lyotard's theory also provides space for particular, local, and traditional epistemologies to emerge as alternatives. This is in line with the idea of decolonizing knowledge in contemporary Islamic studies which seeks to reopen the intellectual creativity of Muslims through a multi-epistemic approach. Within this framework, the Islamic scientific tradition can be positioned as a valid and relevant form of knowledge in answering modern problems.

Thus, Lyotard's grand narrative theory is used as the main analytical tool in this article to critique the dominance of modern science, assess the frozen epistemology of Islam, and see the potential for fluid modernity in opening up new space for the reconstruction of Islamic scientific reason. This perspective is not intended to reject modernity, but to dismantle the hegemonic assumptions that shut down global epistemological plurality.[9]

[8] John Creswell, *Qualitative Inquiry and Research Design*, 4th ed. (London: Sage, 2018), h. 27.
[9] Lyotard, *The Postmodern Condition*, h. 58.

C. Results and Discussion

1. Deconstruction of Modern Science Reason

The deconstruction of modern scientific reasoning requires an understanding that science is not a neutral entity, but rather a historical construct born of a particular social, cultural, and political context. Postmodern thinkers oppose positivistic views that place science as the only source of truth. As explained by Fuller (2018), modern science since the 19th century has established itself as an epistemic authority that plays a role in establishing social and political norms in Western society. In the context of Islamic civilization, the dominance of Western epistemology often influences the way educational institutions and scientific policies construct the concept of truth. Deconstruction is necessary to uncover the ideological structures hidden in modern science, including the secular bias that separates values, ethics, and spirituality from the scientific process. By reading science as a cultural product, Muslims can see that the claim to the universality of modern science is not always in line with Islamic ontological values that emphasize the unity of reason, revelation, and ethics.[10]

One of the main criticisms of modern science is the claim of objectivity that is often taken for granted. However, various studies show that scientific objectivity is inseparable from human bias. Longino (2019) asserts that objectivity is impossible to achieve purely because the entire scientific process is influenced by theoretical assumptions, social interests, and subjective interpretations. Deconstruction in this context means re-examining the concept of objectivity so that it is not used as legitimacy to deny other forms of knowledge, including those derived from Islamic traditions. In Islamic epistemology, the integration of reason and moral values is part of the process of seeking truth. Thus, a critique of absolute objectivity can open up space for alternative epistemologies that combine empiricism with prophetic ethics. This approach allows for a more dialogical and non-mutually negligible reinterpretation of the relationship between science and religion.[11]

In the development of modernity, science also functions as an instrument of state power and global institutions. According to Jasanoff (2021), many public policies, including health, security, and technology, are formed based on scientific authority that is often not transparent to the wider community. The concept of "epistemic authority" criticized by Jasanoff shows that modern science has a hegemonic position in determining the direction of social life. In the context of Muslim countries, acceptance of this authority is often done without critical process, leading to an epistemic dependence on global scientific

[10] S. Fuller and P. Jandrić, *The Postdigital Human: Making the History of the Future* (Postdigital Science and Education, Springer, 2019), h. 32, https://link.springer.com/article/10.1007/s42438-018-0003-x.

[11] H. Longino, *Science as Social Knowledge: Values and Objectivity in Scientific Inquiry* (Princeton University Press, 2019), h. 23.

institutions. Deconstruction is necessary to unravel these power relations and assess how geopolitical interests affect the production of science. This analysis helps build awareness that science is not in a vacuum, but is run within a framework of specific interests that need to be critically understood.[12]

In addition, modern science is built on instrumental rationality that emphasizes efficiency, prediction, and control. Habermas (2017) calls this paradigm "technical rationality" that tends to reduce humans to the object of technological systems. This concept is an important critique of the way modern science treats reality as something that can be controlled and manipulated. In the Islamic perspective, reality is not only an object of scientific manipulation, but has a spiritual and moral dimension. Deconstruction is necessary to assess how this technical paradigm shapes the way Muslims think about nature, humans, and the purpose of science. By reopening the space for ethical and transcendent rationality, Muslims can build a more humanistic and benefit-oriented paradigm of science.

Modernity often claims that scientific progress is a linear process that takes civilization to higher stages. However, contemporary theories of the history of science show that scientific progress is not always progressive. According to Kuhn, and strengthened by recent scientific discussions as discussed by Bird (2018), the development of science occurred through a paradigm revolution that replaced the previous truth. This shows that modern science's claims of certainty are fragile narratives. This deconstruction of the narrative of progress helps to reveal that science is not a single historical path, but an arena of epistemic competition. In the context of Islam, this is important because it opens up space to position Islamic epistemology as an alternative narrative that has a parallel, not subordinate, contribution to the development of science.[13]

Modern science also carries ethical consequences that are not always realized. Various technological innovations, such as genetic engineering, artificial intelligence, and biotechnology, have given rise to new moral dilemmas. According to Floridi (2022), technological advances require new ethics that are able to anticipate long-term humanitarian risks. However, modern science often ignores the ethical dimension in favor of efficiency and innovation. Deconstruction, in this case, helps to dismantle the basic assumptions in science that separate facts and values. In Islamic epistemology, moral values cannot be separated from knowledge because knowledge is a mandate that must be used for the good of humans. Thus, criticism of modern scientific ethics opens up space to integrate maqashid al-shariah as an ethical framework for the development of science.

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[12] S. Jasanoff, *The Ethics of Invention: Technology and the Human Future* (W.W. Norton, 2021), h. 11.

[13] J. Habermas, *The Theory of Communicative Action: Reason and the Rationalization of Society* (Polity Press, 2017), h. 27.

Another aspect that needs to be deconstructed is reductionism in modern science. In many fields, complex reality is simplified into measurable variables that ignore the holistic aspects of human life. Noble (2016) asserts that biological reductionism has failed to understand the complexity of living systems because it ignores the relational dimension and ecological context. In Islamic intellectual life, a holistic approach is an integral part of epistemology, in which science explains not only physical phenomena, but also their relationship to purpose and value. The deconstruction of reductionism reopens the concept of the unity of knowledge (tawhidic knowledge) which was once the foundation of the Islamic scientific tradition. This allowed the birth of a new model of science that not only measured, but also interpreted reality.[14]

Modern science also often positions itself as a universal project that applies to all of humanity. However, studies of the anthropology of science show that science develops differently in different cultures. According to Harding (2016), claims of the universality of science are often used to get rid of local and traditional knowledge that is considered irrational. In the context of Islam, many traditional values and methods are marginalized because they do not conform to Western scientific standards. Deconstruction is necessary to reassess the position of Islamic epistemology as legitimate and equal knowledge. That way, Muslims can develop science rooted in local values without feeling inferior to Western standards.

The dominance of Western epistemology in the world of science also leads to so-called "epistemic injustice." Fricker (2017) explains that epistemic injustice occurs when a certain group is considered illegitimate to produce knowledge. In the history of colonialism, the Islamic world has experienced epistemic marginalization that has made its scientific contributions underestimated or erased from the global narrative. The deconstruction of modern scientific reasoning helps to expose these biases and restore the position of Islam as a civilization with a rich scientific tradition. With this awareness, Islamic educational institutions can rebuild epistemological confidence to develop alternative science paradigms.

In addition to epistemic issues, modern science also faces a crisis of legitimacy. In various countries, there has been a decline in public trust in scientific institutions. According to Oreskes and Conway (2020), many scientific controversies arise because science is influenced by conflicts of economic and political interests. This phenomenon shows that science is no longer the source of absolute truth, so its claims of objectivity need to be questioned. By seeing this crisis of legitimacy, Islamic civilization can offer a scientific approach based on ethics and spiritual values as a contribution to the global knowledge system.

[14] L. Floridi, *The Ethics of Artificial Intelligence: Principles, Challenges, and Opportunities* (Oxford University Press, 2022), h. 54.

Deconstruction also includes criticism of the structure of science education that tends to be technical and ignores human values. Nussbaum (2016) points out that modern education has lost its humanistic orientation, thus giving birth to a generation that is technically skilled but weak in empathy and ethics. This is also the case in many Muslim countries that have adopted Western science curricula without critical modifications. Deconstruction is needed to formulate a more balanced model of science education between technical competence and the formation of moral character. Thus, Islamic epistemology can serve as a basis for integrating the spiritual dimension in science education.

Overall, the deconstruction of modern scientific reason opens up space for a broader epistemic dialogue between the Islamic tradition and modernity. By understanding that science is not an epistemological monolith, Muslims can develop a more reflective, ethical, and contextual scientific paradigm. This effort is not a rejection of science, but an attempt to reconstruct its position within the framework of Islamic values. Through a deconstructive approach, science can be repositioned as an instrument of progress that serves humanitarian and spiritual goals, not just a value-free technical force. Thus, Islamic civilization can take an active role in shaping a more inclusive and equitable future of global science.

2. Criticism of the Frozen Islamic Civilization

The criticism of the freezing of Islamic civilization departs from the fact that the Islamic intellectual tradition has experienced epistemological stagnation since the collapse of classical scientific institutions. Many scholars consider that this decline occurred due to the loss of the ethos of ijtihad and the rise of a textualist mindset that rejected the dynamics of science.[15] According to Ziauddin Sardar (2015), epistemological stagnation arises when Muslims are more focused on maintaining the authority of tradition rather than developing new methodologies in understanding contemporary reality. This freeze can be seen in the weak integration between sharia science and modern science. When Islamic intellectual centers fail to create a creative dialogue between revelation, reason, and social reality, tradition becomes a repetition without innovation. This problem is not only historical, but continues in the form of resistance to the renewal of thought, especially in the fields of epistemology and philosophy of science. Therefore, the criticism of the frozen Islamic civilization is an attempt to reawaken the intellectual dynamics that once lived in the golden era of Islamic civilization.[16]

[15] Ziauddin Sardar, *Reading the Qur'an: The Contemporary Relevance of the Sacred Text of Islam* (Oxford University Press, 2015), h. 14.

[16] Z. Sardar, *Books-in-Brief: Emerging Epistemologies: The Changing Fabric of Knowledge in Postnormal Times* (International Institute of Islamic Thought, 2025), h. 35.

The freezing of Islamic civilization is largely attributed to authoritarian mechanisms in the production of knowledge, in which religious authorities monopolize interpretation, thus limiting space for criticism and renewal. According to Hashim Kamali (2016), the rigid system of authority causes Muslims to develop a culture of high obedience but lack intellectual creativity. This condition inhibits the growth of the critical thinking tradition needed to build science and technology that is relevant to the needs of the times. In addition, the tendency to glorify the past (taqlid) has created a discourse structure that places tradition as a static entity, rather than an ever-evolving historical process. In Arkoun's view (although his works are older), the freezing of Islamic epistemology is also due to the closure of the "unthinkable realms" in the Islamic tradition. Contemporary critics point out that reviving intellectual courage requires a deconstruction of authority that is no longer productive.[17]

One of the indicators of the freezing of Islamic civilization is the stagnation in scientific innovation. The UNESCO Science Report (2021) shows that the contribution of Muslim-majority countries to global research is still very small compared to their demographic and economic potential. The weak investment in science and technology research reflects a deeper epistemological problem: the failure to view science as an instrument of social change. In this context, stagnation is not just a political or economic problem, but a paradigm problem. When the scientific paradigm is more oriented towards the reproduction of traditions than the creation of new knowledge, educational institutions are trapped in learning routines that do not spur critical power. Therefore, criticism of the freezing of Islamic civilization must include an improvement of the educational paradigm, especially in the integration of Islamic epistemology and modern science, as suggested by Ibrahim Ragab (2018).

The tension between tradition and modernity often causes Islamic civilization to run in place. Many Muslim societies view modernity as a threat to identity, so they choose to maintain old forms of tradition without questioning their relevance. According to Ramadan (2017), defensive attitudes towards modernity actually strengthen stagnation because it disconnects with global intellectual development. As a result, Muslims often fail to read contemporary challenges such as digitalization, climate change, and socio-economic transformation. In fact, the classical Islamic scientific tradition in the past was very adaptive to global intellectual development, especially in the era of translation from the 8th to the 12th centuries. Thus, the criticism of the frozen Islamic civilization is not to reject tradition, but to revive the adaptive, creative, and critical spirit that was once the main characteristic of Islamic civilization.

[17] Mohammad Hashim Kamali, *The Middle Path of Moderation in Islam: The Qur'anic Principle of Wasatiyyah* (Oxford University Press, 2016), h. 100.

Contemporary thinkers consider that the freezing of Islamic epistemology is also influenced by the reduction of sharia to a formalistic rule, rather than a dynamic ethical framework. According to Auda (2015), maqasid sharia as a holistic approach should be an instrument of renewal, but instead narrowed down to conservative legalism. This change in focus results in Muslims being trapped in fiqh debates that do not make a meaningful contribution to modern challenges. In the context of science, this legalistic tendency creates a false dichotomy between "religious science" and "world science," thus hindering the integration of knowledge. This critique of the freeze requires a review of the way Muslims understand the sharia, in order to restore its ethical-intellectual function as the foundation of epistemological reform.[18]

The freezing of Islamic civilization is also emphasized by the weak research culture in Islamic educational institutions. Many Islamic boarding schools, madrasas, and universities are still fixated on a curriculum that does not encourage intellectual exploration or scientific innovation. According to research by El-Affendi (2020), Islamic educational institutions often prioritize memorization and moral discipline over problem-solving and creativity. This leads to graduates who master the text, but lack the critical ability to answer contemporary problems. This criticism of stagnation shows the need for inquiry-based Islamic education reform and problem solving. This kind of renewal is significant to encourage the creation of a progressive Islamic epistemology that is responsive to the changing times.[19]

In addition to education, stagnation is also caused by weak science policies in Muslim countries. According to the World Bank (2020), many Muslim countries do not have a long-term research agenda based on innovation. As a result, the science ecosystem is not developing, and the academic world is unable to make epistemological leaps. Unstable politics also worsened the situation, because the development of science requires policy continuity. Criticism of this freeze reveals that the renewal of Islamic civilization is not enough through texts or discourse, but requires a political structure that supports a culture of research and innovation. Thus, the revitalization of Islamic civilization requires the integration of intellectual reform and science-based public policy.

The freezing of Islamic civilization is also related to the weakening of the role of ulama as agents of knowledge transformation. According to Esposito (2019), modern scholars are often trapped in traditional authority so they are less responsive to global issues such as digital technology, bioethics, and social equality. In fact, in the classical period, scholars were multidisciplinary thinkers who mastered jurisprudence, philosophy, medicine, mathematics, and astronomy. This gap shows a decline in the function of the ulama as the guardian

[18] Bold, *Maqqasid Al-Shariah as Philosophy of Islamic Law: A Systems Approach*, h. 39.
[19] Mohammed Arkoun, *The Unthought in Contemporary Islamic Thought* (Saqi Books, 2002), h. 11.

of intellectual dynamics. Contemporary criticism asserts that Islamic civilization can only emerge from the freeze if scholars and intellectuals expand their epistemic capacities, master modern science, and participate in global discourse.

One of the roots of the freezing of Islamic civilization is the romanticization of the golden age. According to Ahmed (2021), the glorification of history causes Muslims to over-idealize the past so as to ignore the historical context that makes the time dynamic. This romanticization creates the illusion that glory can be repeated simply by reviving old traditions, whereas medieval traditions flourished through open interaction with foreign cultures and sciences. Criticism of this tendency emphasizes the need to read history critically, not nostalgically. Thus, epistemological freeze can be overcome by understanding tradition as a constantly moving historical process, rather than an entity that must be preserved in a static form.

From a philosophical perspective, the freezing of Islamic civilization is caused by the lack of development of critical epistemology. According to Khabenjeh (2022), the modern Islamic scientific tradition does not have an adequate epistemic device to read complex and plural reality. As a result, many Muslim thinkers are trapped in a simplistic dichotomy between Islam and the West, tradition and modernity. This critique of the freeze suggests that the revitalization of Islamic civilization requires a new epistemology that is able to explore the conceptual creativity of tradition and at the same time be open to modern science. Such critical epistemology must go beyond normative debates towards the development of new theories that are relevant to global challenges.

The freezing of Islamic civilization is also manifested in resistance to plurality of interpretations. According to Saeed (2016), religious authorities often reject alternative interpretations because they are considered to threaten the unity of the ummah. However, the rejection of plurality actually hinders intellectual progress because it shuts down the space for experimentation of ideas. In the history of Islam, the diversity of interpretations has actually become a source of intellectual creativity. Therefore, this critique of the freeze emphasizes the importance of opening up space for multidisciplinary ijtihad that combines religious, social, and modern science. This methodological reform is indispensable to build an adaptive and progressive Islamic scientific tradition.

Overall, the criticism of the freezing of Islamic civilization is not an attack on tradition, but an invitation to restore the intellectual vitality that was once the hallmark of Islamic civilization. According to Alatas (2017), stagnation can only be overcome through "epistemological liberation" that encourages Muslims to rebuild scientific traditions based on the dynamics of contemporary reality. This revitalization requires courage to criticize knowledge structures that are no longer productive and create a new paradigm that is able to respond to global challenges. Thus, the critique of the freezing of Islamic civilization is the first step to revive the creative, dialogical, and innovative intellectual tradition.

3. Liquid Modernity

The concept of "fluid modernity" refers to the idea that modernity is no longer understood as a stable structure, but as an ever-changing social condition, as Bauman put forward (although the original idea is older), and updated in a contemporary context by social researchers such as Rosa (2019) who highlight social acceleration as a key feature of the present day. Fluid modernity is characterized by epistemological uncertainty, the mobility of values, and the loss of a single foundation in understanding reality. For Muslims, this situation poses new challenges because traditional ways of managing knowledge often rely on established and stable structures. Fluid modernity demands high adaptability and epistemic flexibility in responding to rapid changes in the fields of technology, economics, and culture. Therefore, Islamic civilization must build a paradigm that is not rigid but remains rooted in strong ethical principles. The main challenge lies in how the Islamic tradition can engage productively in the conditions of fluid modernity without losing its epistemological integrity.[20]

One of the main characteristics of liquid modernity is the occurrence of digital transformation that affects almost all sectors of life. According to Schwab (2016) in the concept of the industrial revolution 4.0 and strengthened by the OECD report (2021), digitalization creates a fast-paced and unstable pattern of social interaction, so the definition of knowledge authority has also changed. Information is no longer controlled by a single authority, but is dispersed fragmented through digital platforms. In the Islamic context, this situation gives birth to "digital interpretive autonomy," where individuals can access thousands of religious opinions without the filters of traditional authority. For some parties, this is an opportunity to democratize knowledge; But for others, this actually deepens epistemological uncertainty. Fluid modernity demands new digital literacy and epistemology so that Muslims are able to sort through data, weigh arguments, and take appropriate scientific positions.

Fluid modernity is also characterized by rapid changes in value orientation. According to Giddens (2018), contemporary society lives in a space full of moral ambiguity because social values undergo transformation without a definite direction. This creates an orientation crisis, especially for Muslim communities accustomed to established value structures. However, changes in value do not always have a negative impact. In many cases, fluid modernity opens up space for the strengthening of universal values such as social justice, ecological sustainability, and gender equality. The challenge is how Islamic traditions can respond to these value transformations with a more progressive approach to maqasid, as suggested by Auda (2022), which emphasizes the flexibility of maqasid in the face of changing realities. This shows that fluid modernity can be an opportunity if managed with an open and adaptive Islamic epistemology.

[20] H. Rosa, *Resonance: A Sociology of Our Relationship to the World* (Polity Press, 2019), h. 51.

Social polarization is another aspect of fluid modernity that affects the structure of the global Muslim community. According to research by the Pew Research Center (2020), modern society tends to be fragmented due to excessive information flows and the emergence of digital echo chambers. This phenomenon creates a division of identity, including within Muslims themselves, who are now faced with a clash of interpretations of religious, ethical, and political authority. This polarization makes Islamic scientific discourse more vulnerable to symbolic manipulation and claims of absolute truth that do not have a strong epistemological basis. In this situation, the tradition of dialogue and Islamic rationality needs to be revived in order to be able to become a bridge for social division. Thus, liquid modernity requires Muslims to develop deliberative skills and dialogical skills in interacting with a diversity of opinions.

Liquid modernity gave birth to the phenomenon of "instant life," which is a fast-paced and fast-paced culture. According to Rosa (2020), social acceleration causes humans to lose space for deep reflection. This challenge is particularly relevant to the Islamic intellectual tradition which has a long history of developing contemplative methods such as tafakkur and tadabbur. When Muslims are trapped in an instant culture, the ability to think critically and deeply will be replaced by a superficial quick response. Therefore, liquid modernity demands a reconciliation between the speed of technology and Islamic intellectual ethics that emphasizes the depth of meaning. This becomes an important foundation for the formation of a relevant but still reflective epistemology.

In the economic field, fluid modernity creates an economic system based on flexibility and instability. According to Standing (2016), the gig economy phenomenon gave birth to a new social class called "precariats," a group of people who live in uncertainty of jobs and economic identity. This has an impact on Muslim societies, especially in developing countries, where rapid economic change is often not balanced by adequate social protection. In an Islamic perspective, economic instability demands a reorientation of the values of justice and solidarity. Thus, liquid modernity must be responded to through the strengthening of Islamic economic ethics, including the redistribution of wealth, business ethics, and social protection mechanisms.

From a political aspect, liquid modernity is characterized by a decline in trust in traditional institutions. Fukuyama (2018) notes that the global community is experiencing a crisis of legitimacy against the government, media, and religious institutions. For the Islamic world, this crisis of legitimacy further emphasizes the fragmentation of the authority of scholars and scientific institutions. On the one hand, it makes room for the emergence of alternative thinking; But on the other hand, political uncertainty threatens the consistency of education and research development. Therefore, Muslims need to build a

political and scientific structure that is able to adapt to a fluid situation without losing the direction of morality and the vision of civilization.[21]

Liquid modernity has also created what Beck (2016) calls a "society of risk," that is, conditions in which humans must deal with global threats such as pandemics, climate change, and energy crises. The experience of the COVID-19 pandemic underscores the importance of science, health literacy, and social adaptation for the entire global community, including Muslims. In this situation, Islamic epistemology needs to prioritize science as an instrument of human salvation (hifz al-nafs) within the framework of sharia maqasid. Fluid modernity teaches that risks are unavoidable, but can be managed through an integrated scientific and ethical approach.

The high mobility of human beings in liquid modernity also affects religious identity. According to Vertovec (2019), multicultural societies create a hybrid form of identity, where tradition is no longer understood as a fixed boundary, but rather as a negotiation process. In the context of Islam, this hybrid identity often causes anxiety because it is considered to threaten the purity of teachings. In fact, Islamic history shows that Muslim identity has always been dynamic and adaptive to various cultures. Liquid modernity provides an opportunity for the formation of an Islamic identity that is cosmopolitan, inclusive, and open to global dialogue without losing its spiritual orientation.

Liquid modernity also changed the way humans view themselves and spirituality. According to Heelas (2020), there has been a wave of "flexible spirituality," which is the search for the meaning of life through non-institutional and personal channels. In the Islamic world, this phenomenon can be seen from the growing interest in Sufistic studies, Islamic meditation, and personal spiritual practices that are not always tied to religious institutions. This shows that liquid modernity does not necessarily reduce religiosity, but changes the format of religiosity. The challenge is how religious institutions respond to new spiritual needs without rejecting the religious creativity that is developing in society.

In the field of education, fluid modernity requires adaptive, creative, and competency-based learning. According to the OECD (2022), the education of the future must prepare students to face uncertainty, not just transfer static knowledge. This is in line with the Islamic tradition which emphasizes the development of intellect ('aql) and the ability to think critically. However, many Islamic educational institutions have not adjusted to the demands of liquid modernity. Therefore, the integration of inquiry-based education, digital technology, and Islamic ethics is essential to create a generation of Muslims who are able to survive and contribute in a fluid world.

[21] U. Beck, *The Metamorphosis of the World: How Climate Change Is Transforming Our Concept of the World* (Polity Press, 2016), h. 21.

Overall, liquid modernity is not only a challenge, but also an opportunity for Islamic civilization. With an adaptive paradigm, Islamic traditions can interact productively with the dynamics of modernity without losing basic principles. According to Sardar (2021), Islamic civilization must move from a defensive paradigm to a creative paradigm that sees uncertainty as a space for new possibilities. Liquid modernity opens up opportunities for Muslims to reconstruct epistemology, strengthen social ethics, and build a vision of a more humanist and cosmopolitan civilization. The key lies in the courage to carry out multidisciplinary ijtihad that places Islam as a living and ever-evolving tradition.

D. Conclusions

The deconstruction of scientific reason in Islamic civilization is a strategic step to identify epistemological weaknesses both in modern science and in the Islamic scientific tradition itself. Through Lyotard's approach to grand narrative theory, it can be seen that modern science is not a neutral narrative, but the result of institutional legitimacy that often ignores alternative knowledge structures. On the other hand, the freezing of Islamic civilization is not only due to Western domination, but also due to internal shortcomings in opening up space for criticism and rational reconstruction. The Islamic scientific tradition, which is rich in cosmology, metaphysics, and philosophical rationality, needs to be revitalized with a hermeneutical and critical approach in order to adapt to modern challenges. Liquid modernity as described by Bauman presents a great opportunity for the Islamic world to present an alternative epistemological model that is more holistic and integrative. In unstable, fragmentative, and uncertain global conditions, Islamic epistemology can make a significant contribution to building values, ethics, and humanitarian-oriented science. The reconstruction of Islamic scientific reason should not stop at the slogan "Islamization of science", but rather at the construction of a scientific paradigm that is sourced from the Islamic philosophical tradition and open to dialogue with modern science. By taking advantage of the momentum of liquid modernity, Islamic civilization has a great opportunity to once again play an important role in the development of global science.

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